

Work Order ID 82621

April-03-12 3:51:10 PM

82621

Page 1

Item ID: D350-636-013

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Skidtube LH

Stop

NS2

Start Date: 03/04/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 18/04/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12/04/03 Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2750	F								
D3492	C								
IIN-D350-636	I								

100

0.00

100

DOCUMENT CONTROL

DC

Document Control

Memo

0.00

Photocopy blue file and type labels per PPP D350-636-013 CHG 006

JB S.26120

MLJ 12-4-20

82621

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector	
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Revision ID:

Item Name: Skidtube LH

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NS2Start Date: 03/04/2012 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 18/04/2012 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	*NR1*
QC:		Date:	SPC (Y/N):	Date:	Stop		*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110		0.00							
110	Skidtubes								
Skidtubes	Memo	0.00							
Skidtubes	1- Pick D2600-3 Bent								
	2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750								
	3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr.								
	4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting								
	5- Drill only two fwd step holes using DT9616. Ensure proper positioning.								
	6- Drill pilot holes as per Dwg D2750 sheet A (D2750-3 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail B)								
	8864A	8864B							
	7- Clecko DT8863B on second side of tube and drill pilot holes for detail B. ***SECOND SIDE***								
	8- Open up holes for SECTION AW-AW to 0.375" (2 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open holes for ground handling and detail T to 0.500" (8 holes per side)								
	9-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".								
	10-Open up holes of Detail A to 0.297" (total of 2 holes per side)								

BB 14/04/09

BB 12/04/10

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						Stop	
	QC:	Date:	SPC (Y/N):	Date:			*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
	11-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left from bending as per QSI 004 A/R Aluminum Rod batch: <i>m120164</i>		<i>BE</i>	<i>12/4/10</i>					
	12-Grind welds flush as per Dwg D2750	→	<i>CF</i>	<i>12-4-11</i>					

120

120

QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

S 7/4/11

130

130

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

S 7/4/11

(40)

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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	QC:	Date:	SPC (Y/N):	Date:	Stop		*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 *140* HandFinish	Chemical Conversion Coat per QSI005 4.1	0.00							

140 HandFinish	Memo	0.00	<i>76</i>	<i>12-4-11</i>
----------------------------	------	------	-----------	----------------

150 *150* QC	QC3- Inspect Part Finish <i>QC7</i> Memo	0.00	<i>DP</i>	<i>12-4-11</i>
Quality Control		0.00	<i>PTO</i>	

W/O: 82621

WORK ORDER CHANGES

DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
12-4-11	150	Staub need QC7		12-4-11			

Part No: D350-636-013 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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1

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Customer:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

**Sequence ID/
Work Center ID**

**Operation
Description**

170

170

QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

Memo

**Set Up/
Run Hours**

0.00

Sizel16

Tool ID

Tool #

**Plan
Code**

**Accept
Qty**

**Reject
Qty**

**Reject
Number**

**Insp.
Stamp**

180

180

QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

Sizel16

0.00

190

190

HandFinish

Hand Finishing

Pressure Wash per QSI005 4.3

0.00

Memo

0.00

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

MG 12-4-17

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Tooling: _____

Date: _____

Run

Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2

**Sequence ID/
Work Center ID**

**Operation
Description**

**Set Up/
Run Hours**

Tool ID

Tool #

**Plan
Code**

**Accept
Qty**

**Reject
Qty**

**Reject
Number**

**Insp.
Stamp**

200

200

Powdercoat

Powder Coating

W121134

Memo

9/15 0.00
320 °F
9/4/15

IX 4

m/ 12/04/17

210

210

QC

Quality Control

QC3- Inspect Part Finish

0.00

161 d

11/16/18

Memo

/ Inspect for foreign object per QSI 024

220

220

HandFinish

Hand Finishing

HandFinishing

0.00

161 d

11/16/18

Memo

/ Install inserts as per dwg D2750

W/O:		WORK ORDER CHANGES							
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Required Date: 18/04/2012 **Req'd Qty:** 1.00

1

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Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

**Sequence ID/
Work Center ID**

**Operation
Description**

**Set Up/
Run Hours**

Tool ID

Tool #

**Plan
Code**

**Accept
Qty**

**Reject
Qty**

**Reject
Number**

**Insp.
Stamp**

250

250

Packaging

Pick Kit

0.00

1

12/04/2012

260

260

QC

QC4- 100% Inspect kits for completeness

0.00

8/24/12

Quality Control

270

270

Packaging

Packaging

0.00

Rev 1

Packaging

Memo

Package as per PPP D350-636-013

(k)

12/4/09

W/O:		WORK ORDER CHANGES						
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Picklist Print

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Page 1

Work Order ID: 82621

82621
D350-636-013

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:H02.09.25Rearranged procedure steps KJ
IPP rev I 06.03.30 Per rev. D dwg EC
IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec IPP Rev:L
10.06.22 revise seq110 DD verf:EC IPP Rev:M 10.10.01 as
per IIN revH DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2600-3-BENT		Manufactured	No			110	Each	15.0000	1	1	1	1	

D2600-3-BENT

Extrusion Bent

Location	Loc Qty	Loc Code
LG	82347	
66875	15	
73253	7	
75021	1	
75022	1	
75023	1	
81330	4	

D3493-1

D3493-1

Washer

Manufactured	No	110	Each	54.0000	2
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**

JB 12/04/20

Location	Loc Qty	Loc Code
ST050	54	
70697	2	
77573	12	
78835	40	

78835

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Parent Item: D350-636-013

Parent Item Name: Skidtube LH

82621
D350-636-013

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

D2739

Manufactured No

160

Each

8.0000

**

1
①

BL 12-04-11

D2739

350 I Beam

B 62123

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG	8	
72155	1	
81508	3	
82122	4	

D2744

Manufactured No

160

Each

48.0000

**

1
1

BL 12/04/10

D2744

Cap

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG002	48	
62715	1	
70881	5	
78900	42	

D3490-1

Manufactured No

160

Each

128.0000

**

4
4

BL 12/04/13
B 81976 ~4

D3490-1

Cross Bolt Spacer

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG	119	
81976	119	
LG001	9	
62450	2	
74875	4	
77042	3	

W/O:		WORK ORDER CHANGES							
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Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

D3490-5

Manufactured No

160

Each

45.0000

4

4

**

D3490-5

Cross Bolt Spacer

BE 12/04/13

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

LG	25	
78958	25	
LG001	20	
59230	20	

D2743

Manufactured No

220

Each

354.0000

8

8

**

D2743

Crossbolt Spacer

BC 12/04/13
B 81965 x8

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

LG001	354	
67766	4	
68251	3	
73403	64	
74445	1	
78603	2	
79517	70	

ALS4-1032-225

Purchased No

230

Each

477.0000

38

38

**

AI S4-1032-225

Insert

M 121269 (x38) H 11/04/15

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

ST281	454	
108696	146	
110768	62	
118386	55	
118966	68	
120671	123	
ST282	23	
120410	10	
120451	13	

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Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Purchased

No

230

Each

1,602.000

34

34

**

HL 1204118

AN3C5A

Bolt

Location	Loc Qty	Loc Code
----------	---------	----------

FP001	7	
115835	7	
ST350	1595	
116419	28	
117343	13	
117764	7	
117872	2	
119749	23	
120423	522	
1210168	500	
121255	500	

X34

AN3C6A

Purchased

No

230

Each

517.0000

4

4

**

1120693 (x4) HL 1204118

AN3C6A

BOLT

Location	Loc Qty	Loc Code
----------	---------	----------

FP001	1	
111982	1	
ST351	516	
111982	2	
116419	23	
116549	2	
116704	12	
117619	10	
117688	1	
117872	5	
118422	13	
119449	21	
120423	27	
120693	400	

W/O:		WORK ORDER CHANGES					
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D350-636-013

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

AN6C44A

Purchased No

230

Each

175.0000

4

4

**

SL

in loc 18

AN6C44A

BOLT

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	2	
103964	2	
ST343	173	
120143	25	
<u>120465</u>	27	X4
120641	1	
121013	20	
121167	100	

AN8C35A

Purchased No

230

Each

56.0000

1

1

**

SL

in loc 18

AN8C35A

BOLT

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP002	55	
115960	1	
<u>117834</u>	8	X1
<u>118286</u>	46	
ST346	1	
114442	0	
115188	0	
115960	1	

AN960C10L

NAS1149C0332 Purchased No

230

Each

0.0000

38

38

**

M121255 (x38) SL in loc 18

*AN960C10I *

washer

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 6

Work Order ID: 82621

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

82621
D350-636-013

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

D2745

Manufactured No

230

Each

64.0000

8

8

**

D2745 X
Bushing

B81964 (x8) M nlool19

Location	Loc Qty	Loc Code
FP	62	
79518	62	
FP001	2	
69529	1	
76142	1	

D3488-041

Manufactured No

230

Each

11.0000

1

1

**

D3488-041

Blade Fitting Assembly, LH

Location	Loc Qty	Loc Code
FP002	11	
61689	1	
75056	2	
77021	8	

D3492-1

Manufactured No

230

Each

46.0000

8

8

**

D3492-1

Plug

Location	Loc Qty	Loc Code
FP002	46	
69531	8	
74444	2	
76235	4	
77037	32	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 7

Work Order ID: 82621

82621

Parent Item: D350-636-013

D350-636-013

Parent Item Name: Skidtube LH

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

D3492-5

Manufactured No

230

Each

72.0000

8

8

**

9th layout

D3492-5

Plug

Location	Loc Qty	Loc Code
FP	40	
78792	40	
FP002	32	
77044	32	

D3535-25

Manufactured No

230

Each

22.0000

1

1

**

4th layout

D3535-25

Wearshoe

Location	Loc Qty	Loc Code
FP001	22	
62233	1	
80331	10	
81357	11	

D3536-25

Manufactured No

230

Each

22.0000

1

1

**

4th layout

D3536-25

Gasket

Location	Loc Qty	Loc Code
FP	14	
81342	14	
FP002	8	
78902	8	

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector	
			Initial Chief Eng	Action Description Chief Eng	Sign & Date				

NOTE: Date & initial all entries

Picklist Print

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Page 8

Work Order ID: 82621

82621

Parent Item: D350-636-013

D350-636-013

Parent Item Name: Skidtube LH

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

D3537-1

Manufactured No

230

Each

46.0000

3

3

**

B73716 (x3) M 12/04/18

D3537-1

Wearpad

Location	Loc Qty	Loc Code
FG	10	
79833	10	
FP002	36	
69817	5	
80337	31	

D3631-1

Manufactured No

230

Each

243.0000

8

8

**

M 12/04/18

D3631-1

Washer

Location	Loc Qty	Loc Code
FG	100	
81874	100	
ST072	143	
68062	2	
75548	141	X8

D3791-1

Manufactured No

230

Each

9.0000

1

1

**

M 12/04/18

D3791-1

Wearplate

Location	Loc Qty	Loc Code
FP002	9	
62239	2	
78897	7	X1

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 9

Work Order ID: 82621

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

82621
D350-636-013

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

D3793-1

Manufactured No

230 Each 26.0000

**

D3793-1

Wearshoe

~~D3793-1~~ (x1) M layout

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP001	26	
<u>78901</u>	10	
<u>82171</u>	16	

D3793-3

Manufactured No

230 Each 30.0000

**

D3793-3

Wearshoe

M layout

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP001	23	
80434	11	
82166	12	
FP002	7	
<u>78935</u>	7	

D3794-1

Manufactured No

230 Each 16.0000

**

D3794-1

Gasket

M layout

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP002	16	
<u>75042</u>	4	
<u>80435</u>	12	

D3794-3

Manufactured No

230 Each 24.0000

**

D3794-3

Gasket

M layout

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP002	24	
74530	2	
78895	1	
<u>80436</u>	21	

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 10

Work Order ID: 82621

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

82621
D350-636-013

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

MS21043-6

Purchased

No

230

Each

773.0000

4

4

**

HL

12104118

MS21043-6

NUT

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	20	
103693	20	
ST301	753	
112314	47	XH
117887	6	
118384	200	
120308	500	

MS21083C8

Purchased

No

230

Each

115.0000

1

1

**

1210731 (X) HL nlocal18

MS21083C8

NUT

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
304	50	
121185	50	
FP002	1	
115884	1	
ST303	6	
115884	0	
118077	1	
119309	2	
119436	1	
119638	2	
ST304	58	
120142	8	
120731	25	
121011	25	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 11

Work Order ID: 82621

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

82621
D350-636-013

Start Date: 03/04/2012

Start Qty: 1.00

Required Date: 18/04/2012

Required Qty: 1.00

NAS1149C0832R

Purchased

No

230

Each

296.0000

1

1

**

X1

1204118

NAS1149C0832R

WASHER

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

ST297	296	
-------	-----	--

114915

296

NAS1515H3L

Purchased

No

230

Each

202.0000

4

4

**

X1

1204118

*NAS1515H3L *

WASHER

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FG	40	
----	----	--

102472

40

ST277	162	
-------	-----	--

118686

162

118686	3	
--------	---	--

119438

3

119438	1	
--------	---	--

120072

1

120072	12	
--------	----	--

120360

12

120360	96	
--------	----	--

121243

96

121243	50	
--------	----	--

121243

50

NAS1611-005

Purchased

No

230

Each

204.0000

8

8

**

X1

1204118

NAS1611-005

O-RING

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP001	204	
-------	-----	--

106099

204

114220	31	
--------	----	--

114220

31

119438	105	
--------	-----	--

119438

105

119438	68	
--------	----	--

119438

68

X8

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 12

Work Order ID: 82621

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

82621
D350-636-013

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1611-010

Purchased No

230 Each

275.0000

8

8

**

SL 120415

NAS1611-010

O-RING

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP	50	
110915	0	
120770	50	
FP001	225	
110915	14	
117460	8	
118077	1	
118612	3	
119438	47	
<u>120986</u>	50	X 8
121166	52	
121259	50	

AN8C21A

Purchased No

260 Each

79.0000

2

2

**

JB 12/04/20

AN8C21A

BOLT

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

ST343	79	
118758	5	
120094	34	120094
121067	20	
121167	20	

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action Section B				Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date				

NOTE: Date & initial all entries

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Page 13

Work Order ID: 82621

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

82621
D350-636-013

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

D2741

Manufactured No

260

Each

67.0000

1

1

✓

**

J B

D2741

Blade, 350 Skidtube

Location	Loc Qty	Loc Code
ST	-10	
ST466	77	
71856	1	
76984	26	76984
79516	40	

D3672-1

Manufactured No

260

Each

1,028.000

8

**

8 ✓

J B 12/04/20

D3672-1

Phenolic Washer

Location	Loc Qty	Loc Code
FP001	34	
66821	34	66821
ST060	994	
72229	4	
76277	490	
80369	500	

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action Section B				Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date				

NOTE: Date & initial all entries

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Page 14

Work Order ID: 82621

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

82621
D350-636-013

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased

No

260

Each

115.0000

2

2

✓

**

Location	Loc Qty	Loc Code
----------	---------	----------

304	50	
-----	----	--

121185	50	
--------	----	--

FP002	1	
-------	---	--

115884	1	
--------	---	--

ST303	6	
-------	---	--

115884	0	
--------	---	--

118077	1	
--------	---	--

119309	2	
--------	---	--

119436	1	
--------	---	--

119638	2	
--------	---	--

ST304	58	
-------	----	--

120142	8	
--------	---	--

120731	25	
--------	----	--

121011	25	
--------	----	--

121011

2

✓

**

NAS1149D0863J

Purchased

No

260

Each

219.0000

2

WASHER

JB

12/04/20

Location	Loc Qty	Loc Code
----------	---------	----------

ST298	219	
-------	-----	--

118078	36	
--------	----	--

119307	83	
--------	----	--

120308	100	
--------	-----	--

119307

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKID TUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1	1			D3488-041	BLADE FITTING, LH
	1	1		D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083CB	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES

1) MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
2) FINISH:
 ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
 POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
 BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: N/A
6) IDENTIFICATION: N/A
7) WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
8) WELD PER DART QSI 004
9) INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES (\varnothing 0.297) FOR WEARSHOE INSERTS
10) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
 MINIMUM YIELD TENSILE STRENGTH = 35 KSI
 MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
11) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
12) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL 
13) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL 

SHOP COPY
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ENGINEERING
CONTROLLED COPY
EFFECT TO AMENDMENT

WORK ORDER NO. 82621 MLJ
12/04/03

RELEASED

F	<p>INCORPORATE DS1 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3537-1 REPLACES D3535-13-35 (ZN C8-1); D3794-1/3 REPLACES D3535-13-35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/RAFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041-042 HARDWARE UPDATED (ZN C1-B, 8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON REF NCR 08-043</p>	PH	08.07.16
E	<p>CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS. CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515HSL; REMOVE QTY (10) NAS1515HBL. REMOVE D2741. QTY (2) AN960CB16; REMOVE QTY (2) MS21083C8</p>	CB	07.05.17
D	<p>ADD HOLES AND STACERS FOR APICAL FLOATS; INCORPORATE DEO 91339/157</p>	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>PA</i>	DART AEROSPACE USA, INC.	
DRAWN	<i>PA</i>	PORT HADLOCK, WA	
CHECKED	<i>IS</i>	DRAWING NO.	REV. F
MFG. APPR.	<i>AS</i>	D2750	SHEET 1 OF 11
APPROVED	<i>LM</i>	TITLE	SCALE
DE APPR.	<i>LM</i>	350 SKIDTUBE ASSEMBLY	
DATE	08.07.16	NTS	

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

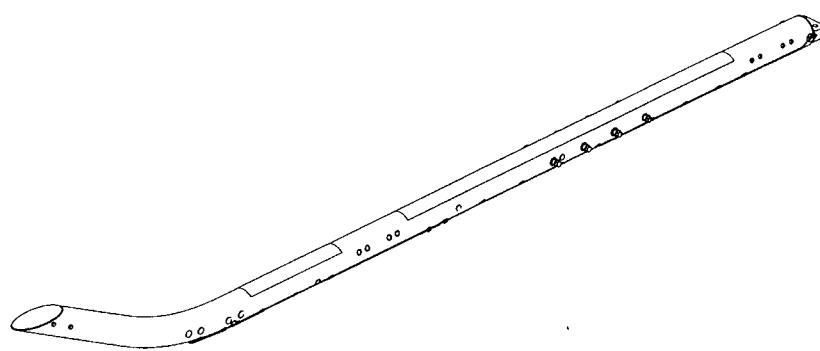
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

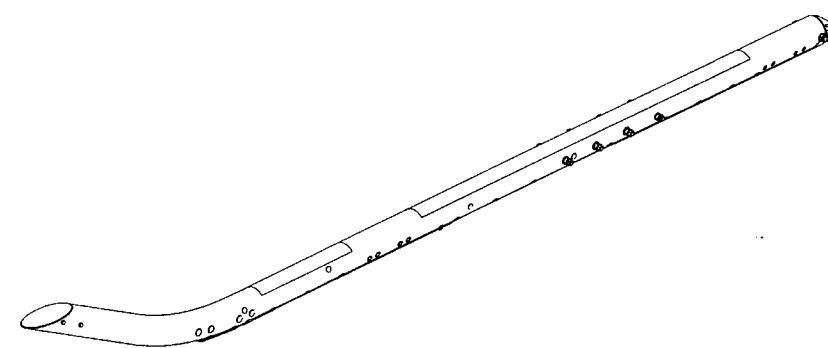
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

82621



D2750-041 350 SKIDTUBE ASSEMBLY, LH



D2750-042 350 SKIDTUBE ASSEMBLY, RH

RELEASED
09.22.14

DESIGN	<i>PW</i>	DART AEROSPACE USA, INC.	
DRAWN	<i>IA</i>	PORT HADLOCK, WA	
CHECKED	<i>PA</i>	DRAWING NO.	REV. F
MFG. APPR.	<i>AA</i>	D2750	SHEET 2 OF 11
APPROVED	<i>MA</i>	TITLE	SCALE
DE APPR.	<i>MA</i>	350 SKIDTUBE ASSEMBLY	NTS
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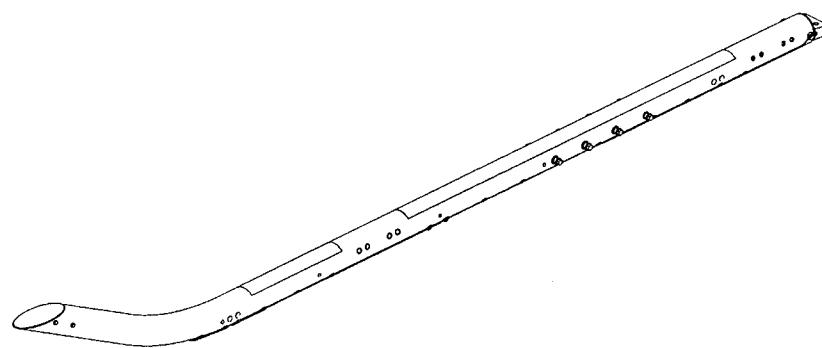
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DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

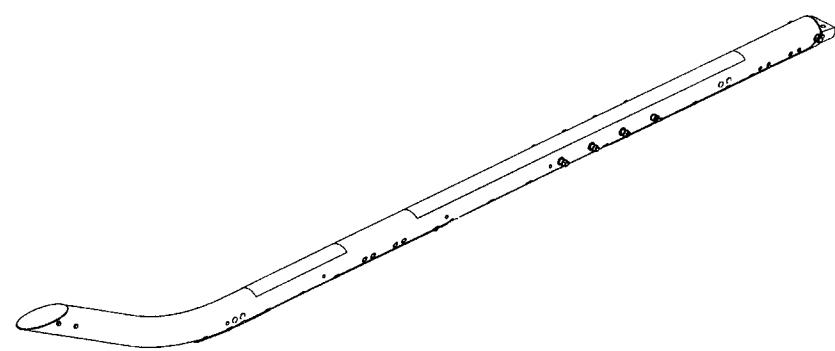
NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector	
			Initial Chief Eng	Action Description Chief Eng	Sign & Date				

NOTE: Date & initial all entries

82621



D2750-043 350 SKIDTUBE ASSEMBLY, LH



D2750-044 350 SKIDTUBE ASSEMBLY, RH

RELEASED
64-9 22/17

DESIGN	<i>PW</i>	DART AEROSPACE USA, INC.	
DRAWN	<i>PW</i>	PORT HADLOCK, WA	
CHECKED	<i>A</i>	DRAWING NO.	REV. F
MFG. APPR.	<i>AM</i>	D2750	SHEET 3 OF 11
APPROVED	<i>AM</i>	TITLE	SCALE
DE APPR.	<i>AM</i>	350 SKIDTUBE ASSEMBLY	NTS
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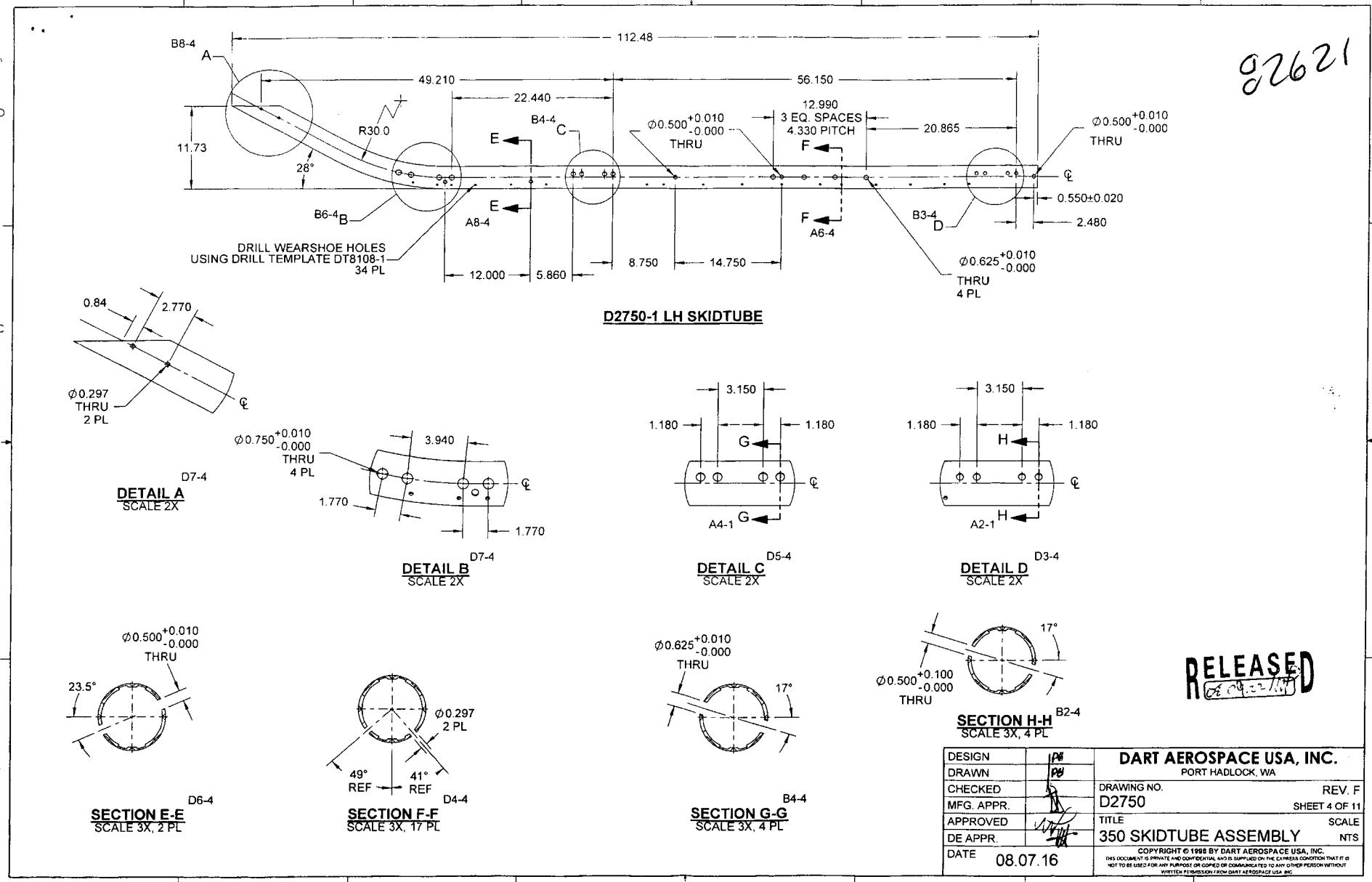
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN	108	DART AEROSPACE USA, INC.
DRAWN	PB	PORT HADLOCK, WA
CHECKED	AS	DRAWING NO. D2750 REV. F
MFG. APPR.		SHEET 4 OF 11
APPROVED	WJH	TITLE 350 SKIDTUBE ASSEMBLY NTS
DE APPR.		DATE 08.07.16

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6/6/2014

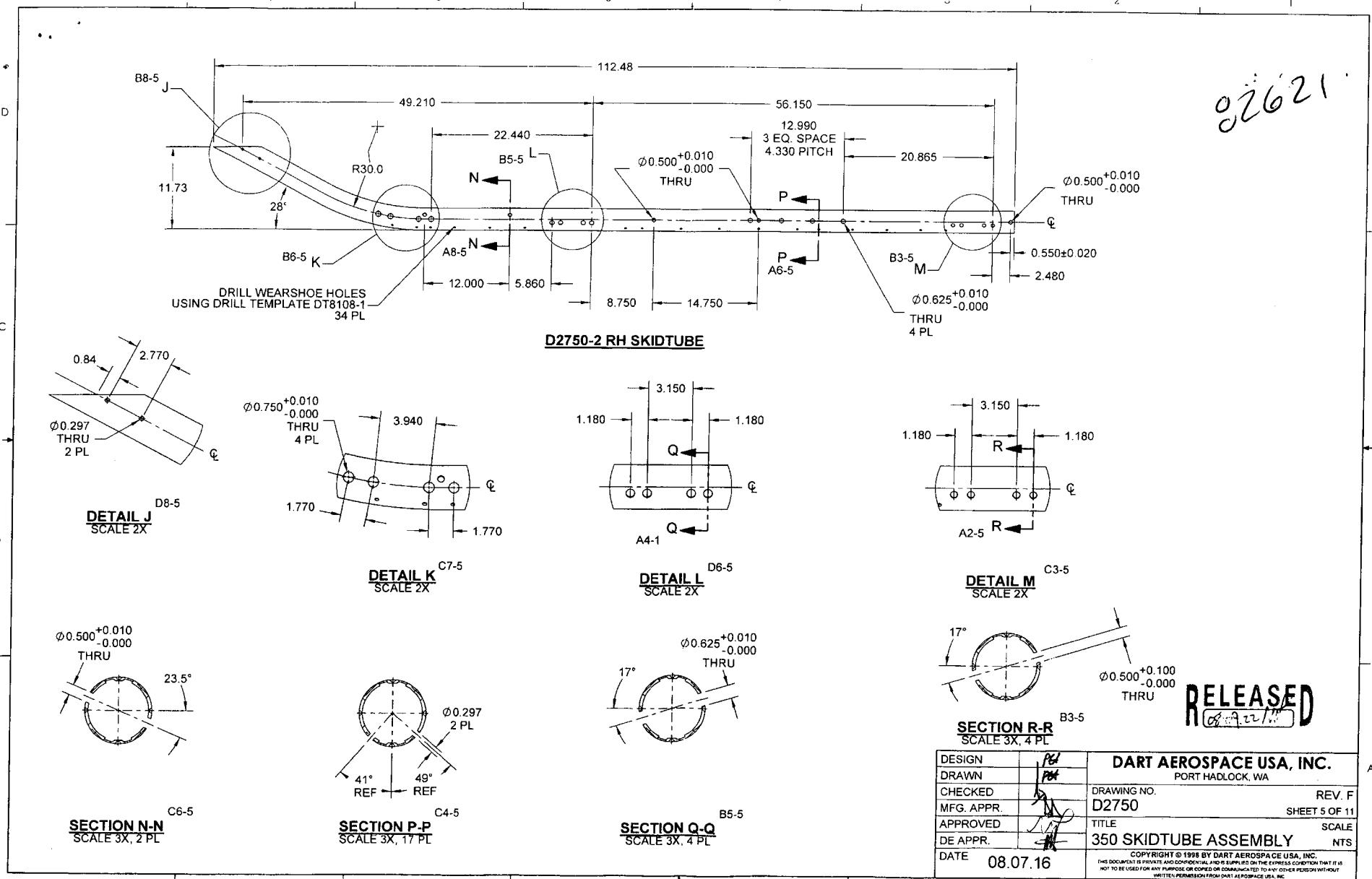
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

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NOTE: Date & initial all entries



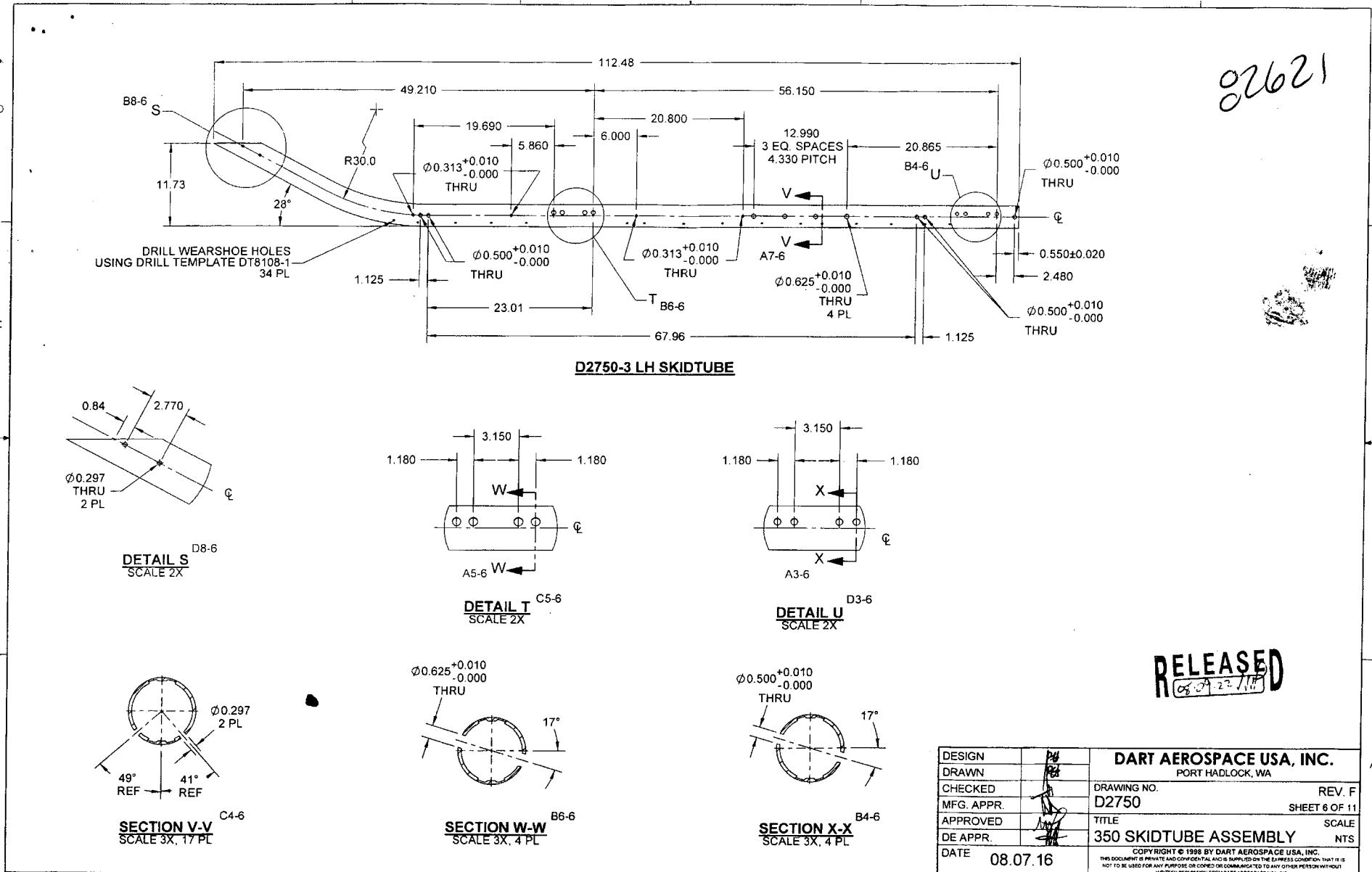
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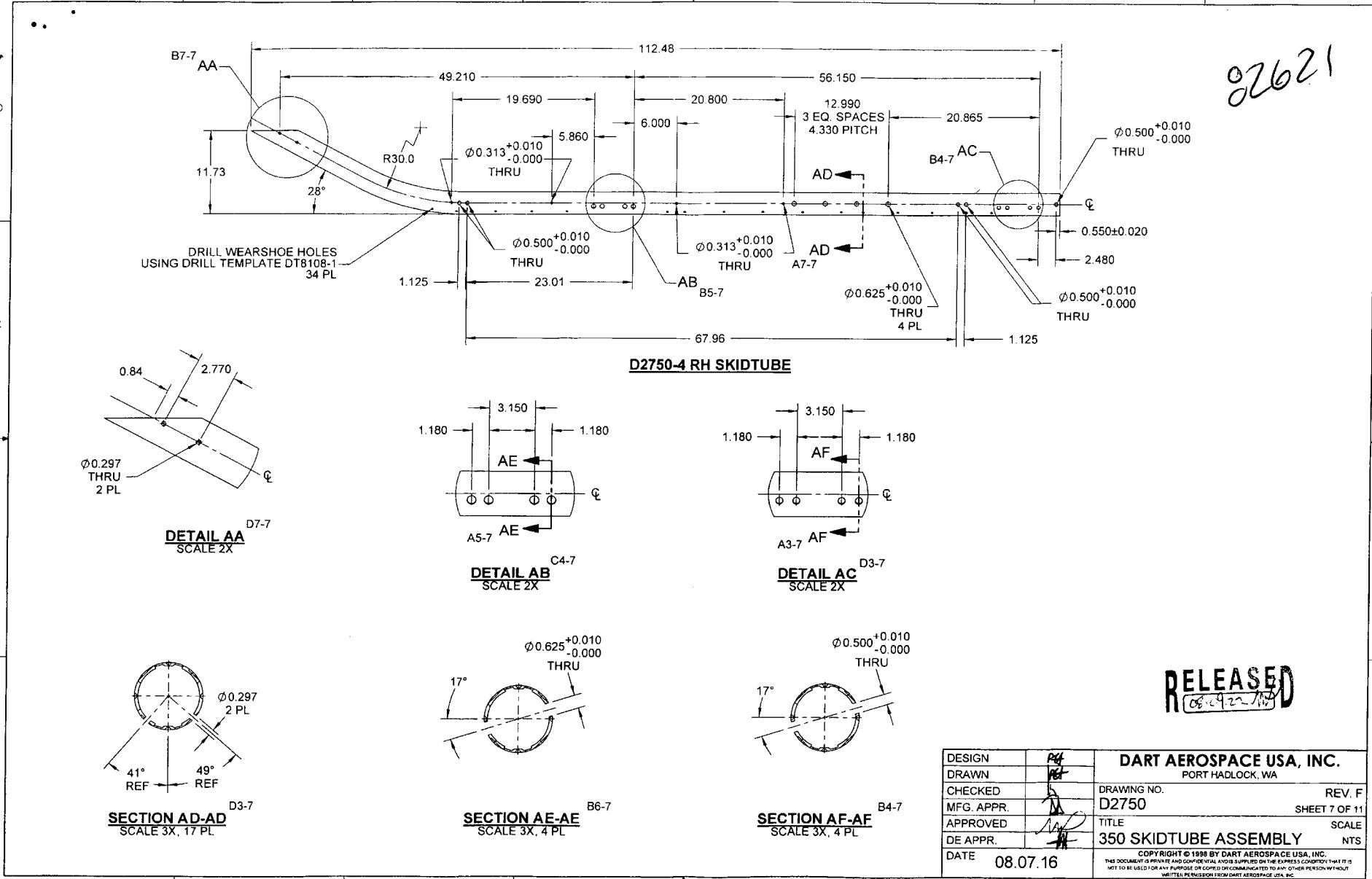
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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DESIGN	AA	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWN	RF	DRAWING NO.	REV. F
CHECKED		D2750	SHEET 7 OF 11
MFG. APPR.		TITLE	SCALE
APPROVED	AA	350 SKIDTUBE ASSEMBLY	NTS
DE APPR.		DATE 08.07.16	

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08.07.16

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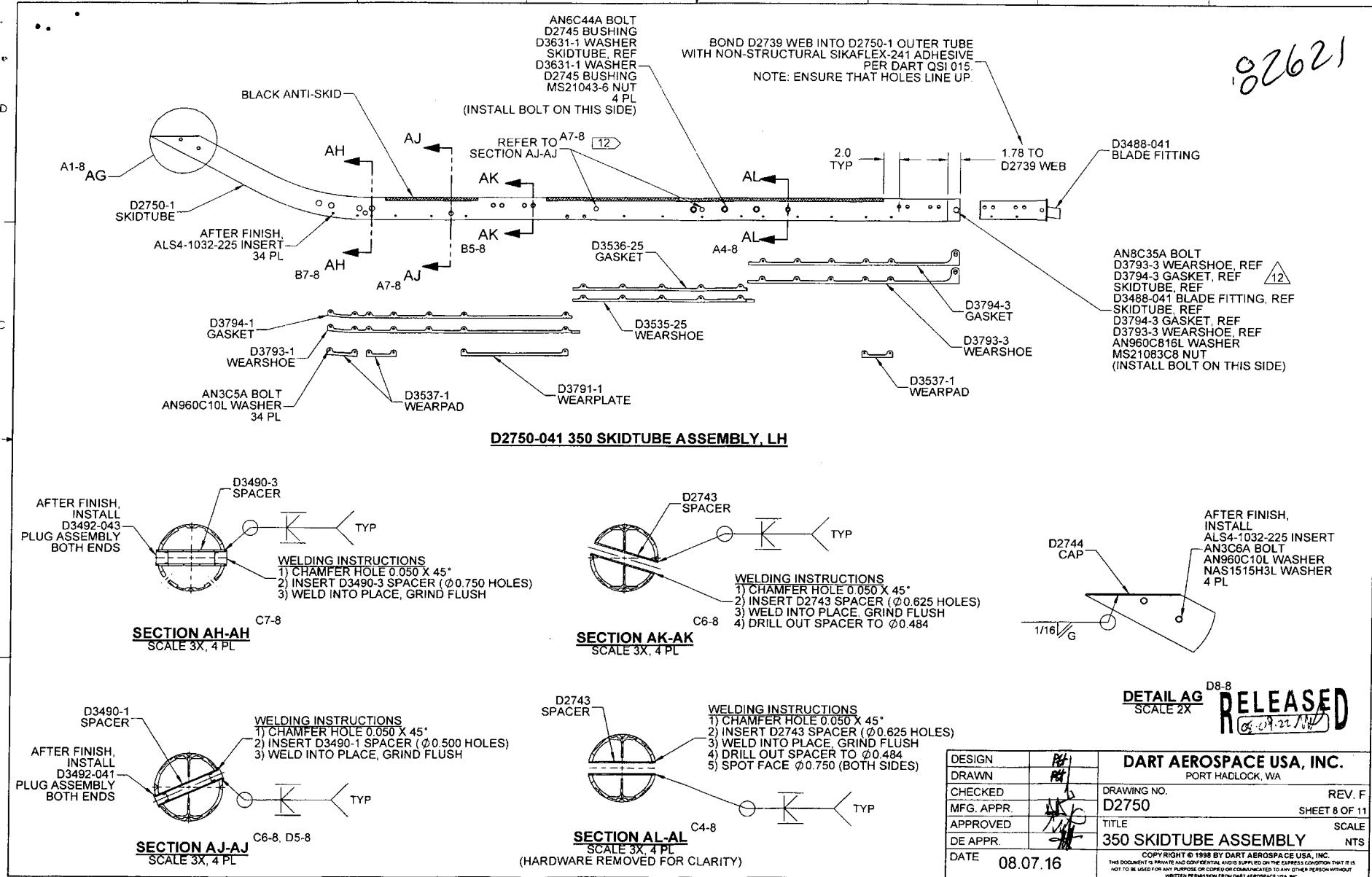
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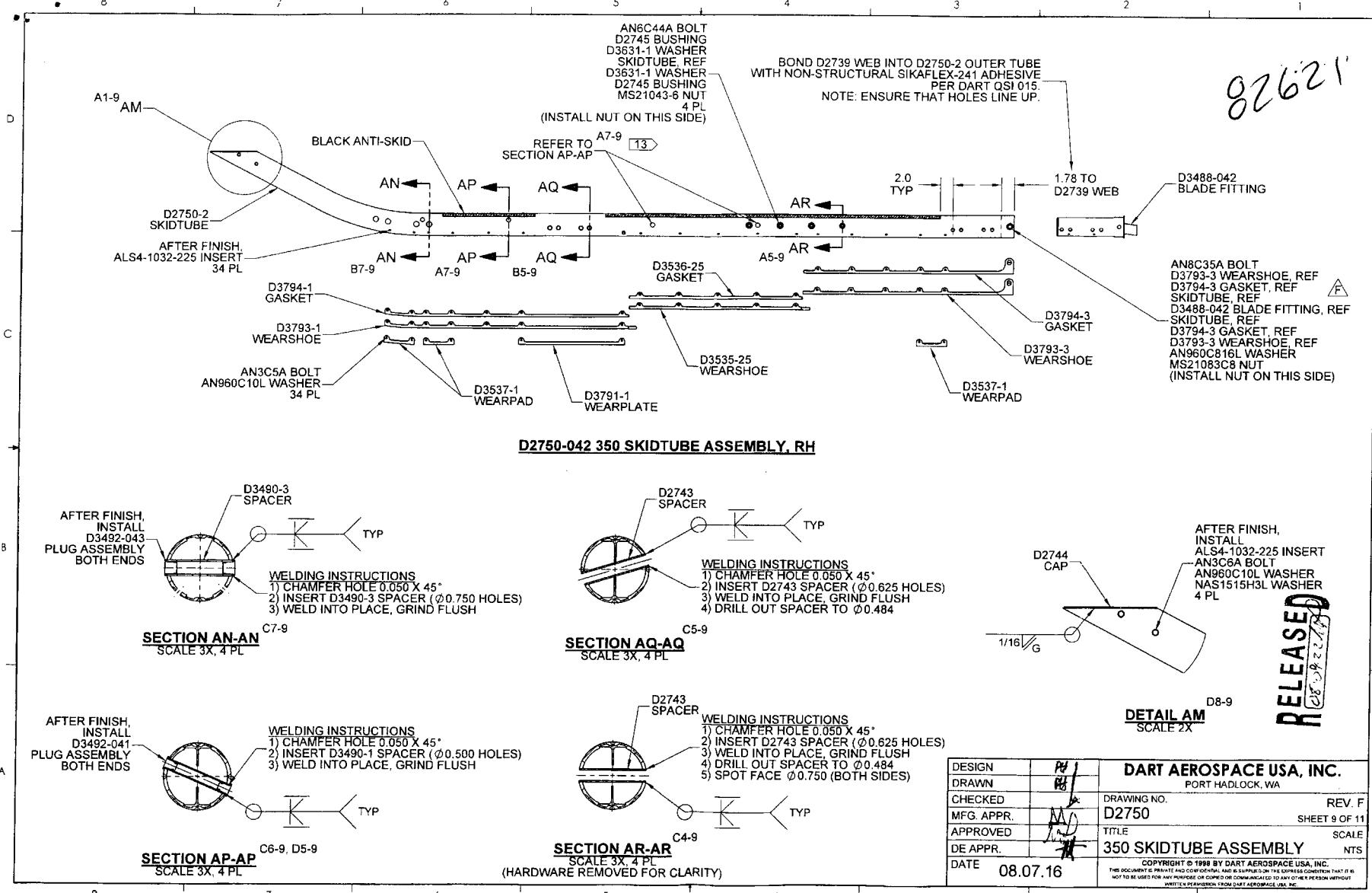
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



2621

AN8C35A BOLT
 D3793-3 WEARSHOE, REF
 D3794-3 GASKET, REF

D3488-042 BLADE FITTING, REF
 SKIDTUBE, REF
D3794-3 GASKET, REF
 D3793-3 WEARSHOE, REF
AN960C816L WASHER
MS2108C8 NUT
 (INSTALL NUT ON THIS SIDE)

AFTER FINISH,
INSTALL
ALS4-1032-225 INSERT
AN3C6A BOLT
AN960C10L WASHER
NAS1515H3L WASHER
4 PI

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DESIGN	P8	DART AEROSPACE USA, INC.		
DRAWN	P8	PORT HADLOCK, WA		
CHECKED		DRAWING NO.	REV. F	
MFG. APPR.		D2750	SHEET 9 OF 11	
APPROVED	MJ	TITLE	SCALE	
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS	
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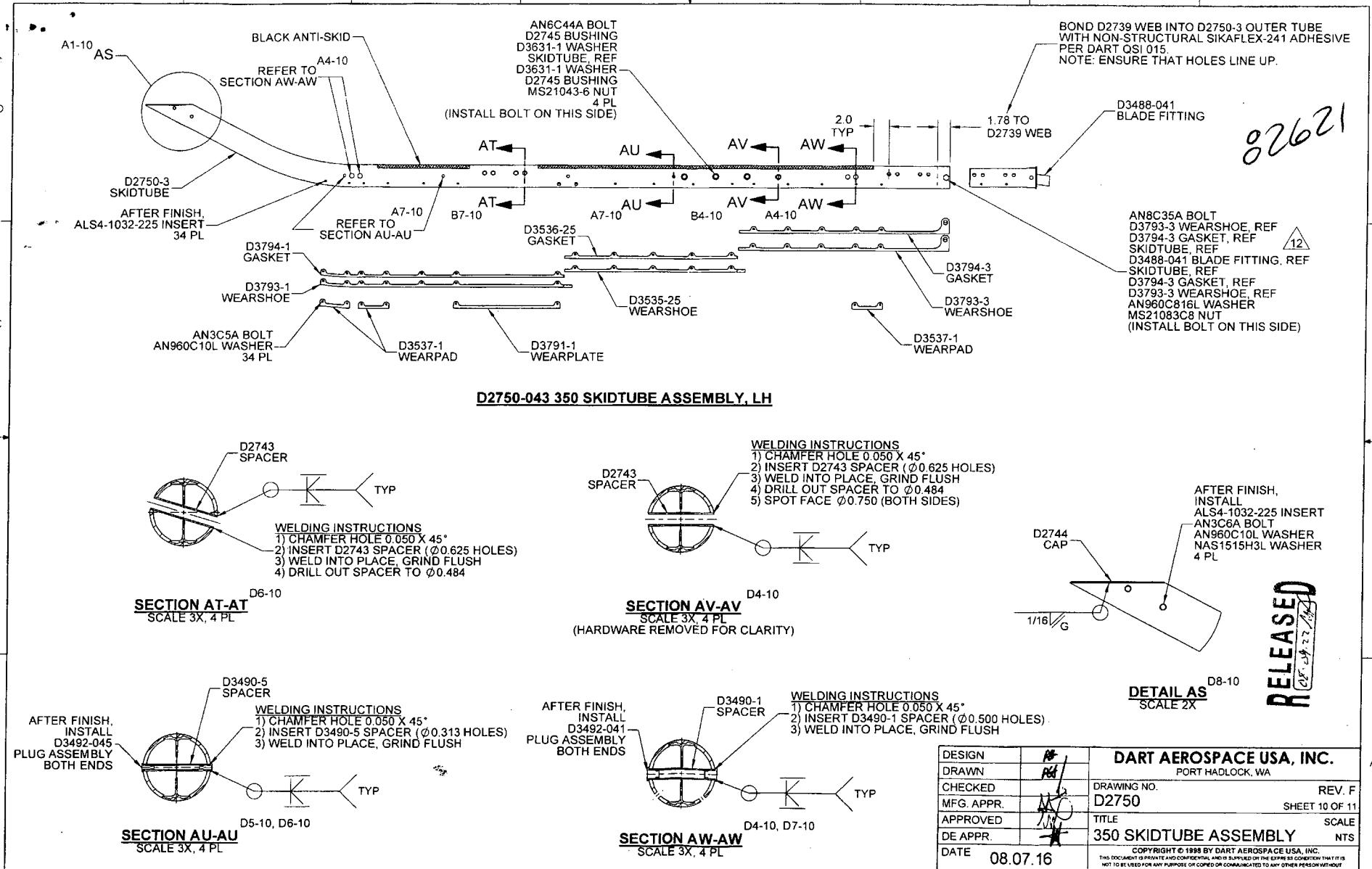
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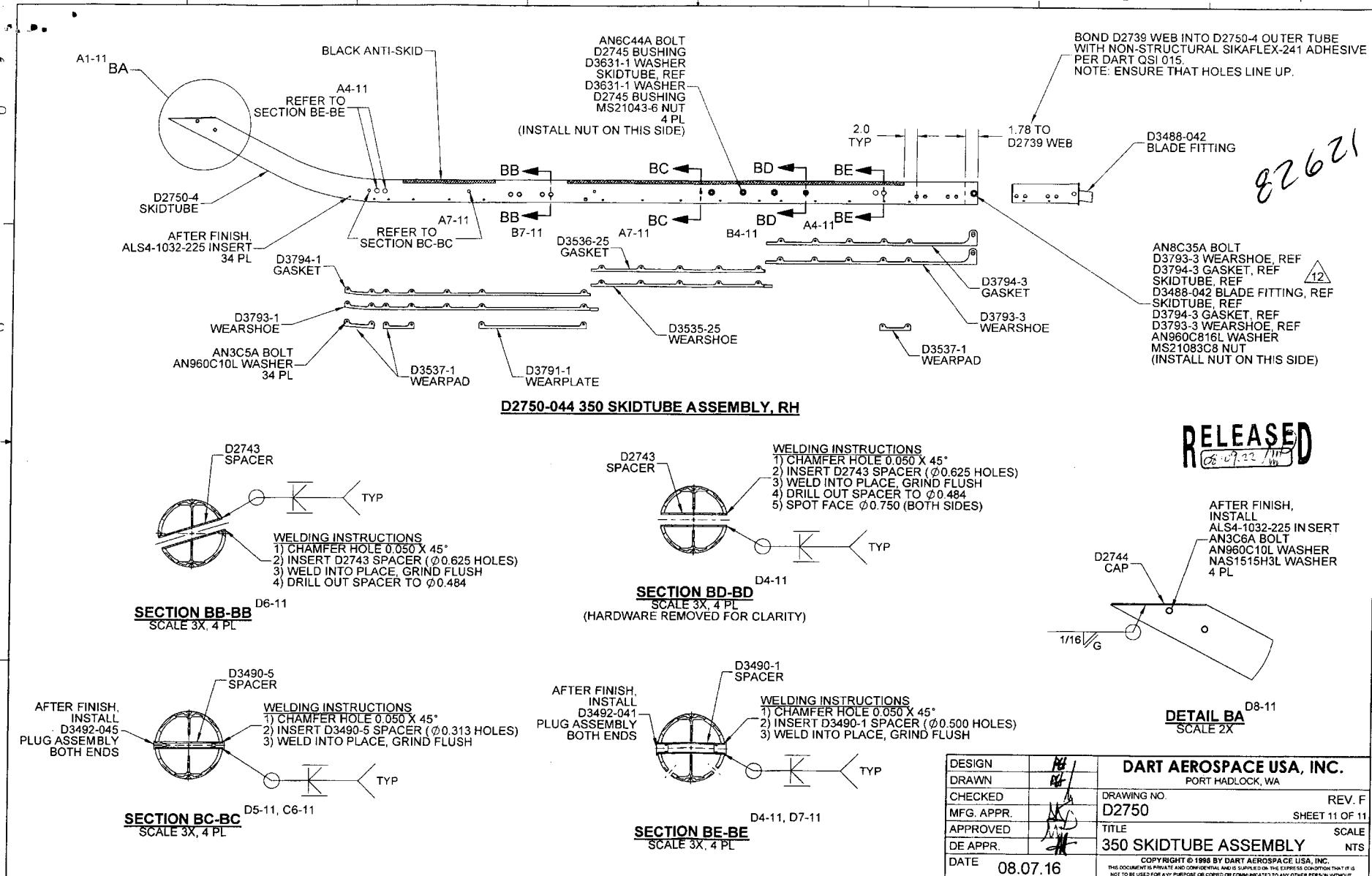
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 286

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 82189
Part number: A350 - 636 - 012
Description: Skid tube
Welding Process: Tig[] Mig[]
Base material: Alum
Current: AC[] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[] fail[]
Penetration: pass[] fail[]

UNACCEPTABLE

Cracks: pass[] fail[]
Undercut: pass[] fail[]
Pin holes: pass[] fail[]
Overlap (cold lap): pass[] fail[]
Porosity (surface): pass[] fail[]
Coloration: pass[] fail[]

Qualifier David Sund Date of Test Coupon 12-04-03

Welder Barclay Elliott Date of Test Coupon 12-04-03

The above named individual is qualified in accordance with AWS D17.1.2001 to weld